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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,399	02/08/2006	Bogdan Serban	271884US2PCT	4409
22850	7590	08/04/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER LEE JR, KENNETH B	
			ART UNIT	PAPER NUMBER
			2629	
			NOTIFICATION DATE	DELIVERY MODE
			08/04/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/535,399	Applicant(s) SERBAN ET AL.	
	Examiner KENNETH B. LEE JR	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/18/2009 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 17 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asher, US Patent #5,159,159 in view of Eventoff (see previous action).

Referring to claim 17, Asher discloses a data input device (touch sensor, abstract), comprising: a plurality of unidirectional position detectors (fig. 1), each unidirectional position detector being associated with a respective row of keys (fig. 1), each unidirectional position detector including a first input connection (first fixed resistor, 33), a second input connection (second fixed resistor, 32), and an output connection (touch controller); wherein the output connections of the unidirectional position detectors

are connected at various locations to a first ohmic resistor (force variable resistor, 42), and the first input connections are connected to a first terminal (fixed resistor 33 is connected on opposite ends to terminals 10 and 11, col. 8, lines 10-11 and 35-36) of the data input device (touch sensor), and the second input connections are connected to a second terminal of the data input device (fixed resistor 32 is connected to terminals 12 and 13, fig. 1).

Although Asher discloses that the invention related to devices such as human-computer interfaces, both as general computer input devices and as controllers for dedicated electronics systems, he doesn't explicitly disclose keyboards, more specifically keys, which would be an obvious feature using these devices.

Eventoff discloses a digitizer pad using three terminals to determine position for use in devices such as keyboards (col. 1, line 39, and lines 57-67).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate the invention disclosed in Eventoff to modify Asher.

The motivation for doing so would have been to provide a device that senses pressure to determine location (column 1, lines 50-53).

Therefore, it would have been obvious to combine Eventoff with Asher to obtain the invention as specified in claim 17.

Regarding claim 36, Asher discloses wherein at least two unidirectional position detectors are disposed at a distance such that alternate or simultaneous actuation of the two position detectors is possible using a single control element (touch controller that reports the two-dimensional position and pressure of the object, col. 3, lines 30-38).

4. Claims 18-35, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asher in view of Eventoff as applied to claim 17 above, and further in view of Crumley (see previous action).

Regarding claim 18, Asher and Eventoff fail to disclose a strip of resistive material, wherein output connections are connected to the strip or resistive material.

Crumley discloses a resistive ink and conductive ink that could be used as a continuous resistive element running parallel and perpendicular to the conductors (column 2, lines 48-60; column 3, lines 5-10; Fig. 2).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate the invention disclosed in Crumley to modify Asher and Eventoff.

The motivation for doing so would have been to provide a simpler method for decoding switch arrays (col. 1, lines 46-48).

Therefore, it would have been obvious to combine Crumley with Asher and Eventoff to obtain the invention as specified in claim 18.

Regarding claim 19, Crumley discloses a series layout of a plurality of discrete resistors (column 1, lines 34-36 and 65-68).

Regarding claim 20, Crumley discloses switches being connected to the first and second conductors (abstract; column 1, lines 32-40).

Regarding claim 21, Crumley discloses wherein the switches are connected at various locations to the strip of resistive material (column 1, lines 34-43 and column 2, lines 1-14).

Regarding claim 22, Crumley discloses a series layout of a plurality of discrete resistors (column 1, lines 34-36)).

Regarding claim 23, Crumley discloses a voltage divider (Fig. 1) and resistors extending along a row of a switch array. Crumley also discloses conducting lines extending from the resistors that are arranged at a certain distance from one another (Fig. 1).

Crumley fails to disclose a comb-like conductor and an activation layer made of a semiconducting material.

Eventoff discloses a plurality of conductors extending from each resistor ply which are spaced apart and interleaved with a plurality of conductors extending from a third terminal that include a pressure sensitive conductive layer on each side of a base ply (abstract, column 1, line 19 - column 2, line 47).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate the invention disclosed in Eventoff to modify Caullet and Crumley.

The motivation for doing so would have been to provide spatial location sensing with the ability to sense pressure (column 1, lines 40-50).

Therefore, it would have been obvious to combine Eventoff with Caullet and Crumley to obtain the invention as specified in claim 23.

Regarding claim 24, Eventoff discloses a non-linear resistive gradient (column 4, lines 66-68).

Regarding claim 25, it has limitations similar to those of claim 23 and therefore is rejected on the same grounds.

Regarding claim 26, it has limitations similar to those of claim 24 and therefore is rejected on the same grounds.

Regarding claim 27, Eventoff discloses a third terminal and means for electrically interconnecting the third terminal to a selected location along the electrical contact surface of the resistor ply and a switching means that is interconnected to provide a substantially zero voltage drop between terminals (column 1, line 64 – column 2, line 11).

Regarding claims 28 and 29, they have limitations similar to those of claim 27 and therefore are rejected on the same grounds.

Regarding claims 30 and 31, Crumley discloses a series layout of resistors and located in parallel rows (Fig. 1) and switching means (column 2, lines 1-14).

Regarding claim 32, it has limitations similar to those of claim 30 and therefore is rejected on the same grounds.

Regarding claim 33, Eventoff discloses actuation of the switches using a single control element (Fig. 9).

Regarding claim 34, Eventoff discloses sensors that are disposed a distance apart and are actuated by a single control element (column 1, lines 19-31).

Regarding claim 35, Crumley discloses determining position of closed switches in matrix based on equations (voltage taps on first end and second end have different equations which result in different locations) (page 3).

Regarding claim 37, Eventoff discloses switches connected on one end and a same resistor (Fig. 9).

Regarding claim 38, Eventoff discloses wherein the discrete resistors are located at a location which is not subject to deformation (column 2, lines 12-45).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH B. LEE JR whose telephone number is (571)270-3147. The examiner can normally be reached on Mon. - Fri. 7:30AM - 4:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kenneth B. Lee Jr.
Examiner
Art Unit 2629

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KBL

/KEVIN M NGUYEN/
Primary Examiner, Art Unit 2629